

WHAT IS CLAIMED IS:

1. A method for reading data from an information recording medium having a plurality of address regions, comprising the steps of:

performing a reading operation for all of designated address regions among the plurality of address regions while holding read error information regarding the read error in the case where a read error occurs during reading of data from one of the plurality of address regions;

transferring the read data to a data conversion device for converting the read data; and

transferring the read error information to the data conversion device.

2. A method for reading data according to claim 1, wherein the read error information includes read error presence/absence information indicating presence/absence of the read error.

3. A method for reading data according to claim 1, wherein the read error information includes read error factor information indicating a factor which caused the read error and read error occurrence address information indicating an address region wherein the read error occurred.

4. A method for reading data according to claim 3, wherein:
the step of performing the reading operation includes holding the read data; and
the step of transferring the read error information includes a step of transferring the read error occurrence address information and a state of the held data to the data conversion device.

5. A method for reading data according to claim 3, wherein the step of transferring the read error information includes a step of attaching the read error occurrence address information and the read error factor information as headers to the data read from the information recording medium.

6. A drive, comprising:

a reading section for reading data from an information recording medium having a plurality of address regions, wherein, in the case where a read error occurs during reading of data from one of the plurality of address regions, the reading section generates read error information regarding the read error, and the reading section performs a reading operation for all of designated address regions among the plurality of address regions;

a data holding section for holding the read data and the read error information; and

a control section for controlling the reading section and the data holding section, wherein the control section transfers the read data to a data conversion device for converting the read data, and the control section transfers the read error information to the data conversion device.

7. A drive according to claim 6, wherein the read error information includes read error presence/absence information indicating presence/absence of the read error.

8. A drive according to claim 6, wherein the read error information includes read error factor information indicating a factor which caused the read error and read error occurrence address information indicating an address

region wherein the read error occurred.

9. A drive according to claim 8, wherein the control section transfers the read error occurrence address information and a state of the held data to the data conversion device.

10. A drive according to claim 8, wherein, in the case of transferring the read data, the control section attaches the read error factor information and the read error occurrence address information as headers to the read data to be transferred.

11. A method for reproducing data from an information recording medium having a plurality of address regions, comprising the steps of:

performing a reading operation for all of designated address regions among the plurality of address regions while holding read error information regarding the read error in the case where a read error occurs during reading of data from one of the plurality of address regions;

transferring the read data to a data conversion device for converting the read data;

transferring the read error information to the data conversion device; and

changing a method for transferring the read data to the data conversion device according to the read error information.

12. A method for reproducing data according to claim 11, wherein the read error information includes read error presence/absence information indicating presence/absence of the read error.

13. A method for reproducing data according to claim 11, wherein the read error information includes read error factor information indicating a factor which caused the read error and read error occurrence address information indicating an address region wherein the read error occurred.

14. A method for reproducing data according to claim 13, wherein:

the read data is real-time data compressed according to a MPEG format; and

the data conversion device MPEG-decodes the read data.

15. A method for reproducing data according to claim 14, wherein:

a plurality of GOPs are recorded in the information recording medium; and

the step of changing the method for transferring the read data includes a step of restricting the transfer of a GOP including data read from an address region wherein the read error occurred to the data conversion device when the read error factor information indicates a "data reading impossible state".

16. A method for reproducing data according to claim 14, wherein:

the step of performing the reading operation includes a step of performing an error detection/correction operation for the data read from the information recording medium and a step of holding the read error factor information indicating an "error correction saturated state" when an error amount of the read data exceeds a

capacity of the error detection/correction operation; and the step of changing the method for transferring the read data includes a step of transferring the read data to the data conversion device when the read error factor information indicates the "error correction saturated state".

17. A method for reproducing data according to claim 16, wherein the step of changing the method for transferring the read data includes a step of:

transferring to the reproduction device all of the read data except for a GOP including data read from the address region wherein the read error occurred when data read from an address region wherein the read error occurred is included in an I-picture, and

transferring to the reproduction device a GOP including data read from the address region wherein the read error occurred when data read from an address region wherein the read error occurred is included in a B- or P-picture.

18. A method for reproducing data according to claim 16, wherein the step of changing the method for transferring the read data includes a step of:

transferring to the reproduction device all of the read data except for a GOP including data read from the address region wherein the read error occurred when data read from an address region wherein the read error occurred is included in an I-picture, and

transferring to the reproduction device all of the read data except for the B- or P-picture including data read from the address region wherein the read error occurred when data read from an address region wherein the read error occurred is included in a B- or P-picture.

19. A method for reproducing data according to claim 14, wherein:

a plurality of GOPs are recorded in the information recording medium; and

the step of changing the method for transferring the read data includes a step of stopping a conversion operation in the data conversion device when the read errors continuously occurs over two or more GOPs.

20. A method for reproducing data according to claim 19, wherein the step of stopping the conversion operation includes a step of cautioning that the data conversion device is unusable.

21. A method for reproducing data according to claim 11, wherein the step of changing the method for transferring the read data includes a step of changing a method for transferring the read data by an order of a user.

22. An information recording medium reproduction apparatus, comprising:

a drive for reading data from an information recording medium having a plurality of address regions, wherein, in the case where a read error occurs during reading of data from one of the plurality of address regions, the drive performs a reading operation for all of designated address regions among the plurality of address regions while holding read error information regarding the read error; and

a host system including,

a data conversion device for converting the read data, and

a CPU for controlling transfer of the read data to the data conversion device according to the read error information.

23. An information recording medium reproduction apparatus according to claim 22, wherein the read error information includes read error presence/absence information indicating presence/absence of the read error.

24. An information recording medium reproduction apparatus according to claim 22, wherein the read error information includes read error factor information indicating a factor which caused the read error and read error occurrence address information indicating an address region wherein the read error occurred.

25. An information recording medium reproduction apparatus according to claim 24, wherein:

the data read from the information recording medium is real-time data compressed according to an MPEG format; and

the data conversion device MPEG-decodes the read data.

26. An information recording medium reproduction apparatus according to claim 25, wherein:

a plurality of GOPs are recorded in the information recording medium; and

when the read error factor information indicates a "data reading impossible state", the CPU restricts data transfer of a GOP including data read from an address region wherein the read error occurred to the data conversion device.

27. An information recording medium reproduction apparatus according to claim 25, wherein:

the drive performs an error detection/correction operation for the data read from the information recording medium and, when an error amount of the read data exceeds a capacity of the error detection/correction operation, holds the read error factor information indicating an "error correction saturated state"; and

when the read error factor information indicates an "error correction saturated state", the CPU transfers the read data to the data conversion device.

28. An information recording medium reproduction apparatus according to claim 27, wherein:

when data read from an address region wherein the read error occurred is included in an I-picture, all of the read data except for a GOP including data read from the address region wherein the read error occurred is transferred to the reproduction device, and

when data read from an address region wherein the read error occurred is included in a B- or P-picture, a GOP including data read from the address region wherein the read error occurred is transferred to the reproduction device.

29. An information recording medium reproduction apparatus according to claim 27, wherein:

when data read from an address region wherein the read error occurred is included in an I-picture, all of the read data except for a GOP including data read from the address region wherein the read error occurred is transferred to the reproduction device, and

when data read from an address region wherein the read error occurred is included in a B- or P-picture, all of the read data except for the B- or P-picture including data read from the address region wherein the read error occurred is transferred to the reproduction device.

30. An information recording medium reproduction apparatus according to claim 25, wherein:

each data read from an address region in the information recording medium includes a plurality of GOPs; and

when the read errors continuously occur over two or more GOPs, the data conversion device stops a conversion operation in the data conversion device.

31. An information recording medium reproduction apparatus according to claim 30, which cautions that the data conversion device is unusable when the conversion operation in the data conversion device is stopped.

32. An information recording medium reproduction apparatus according to claim 22, wherein the host system further includes a panel control section for sending an order of a user to the CPU. ..